Aerial Lift and Chipper Safety

Presented by:

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Aerial Lifts

Aerial lifts permit workers to safely and efficiently access elevated portions of trees to conduct required work

Aerial Lifts

Permit unqualified individuals to easily enter potentially dangerous sites high in trees

- Significantly increases risk to worker and public
- Results in injuries and sometimes fatalities
- Damages trees

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Aerial Lift Accidents

Most common:

- Overturns
- Falls from platform
- Boom collapse
- Crushing
- Electrocution

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Aerial Lift Accidents

Fatality Statistics:

Cause	Boom-supported lifts	Scissor lifts	Unknown type of lift	Total
Electrocutions	62	6	-	69
Falls	35	23	6	64
Collapses or tipovers	23	21	-	46
Caught in/between	11	-	-	14
Struck by/against	6	-	-	9
Other causes	5	-	-	5
Total deaths	142	55	10	207

Aerial Lift Safety

Always follow safety requirements:

- Applicable laws and regulations
- ANSI standards
- Manufacturer's operating instructions

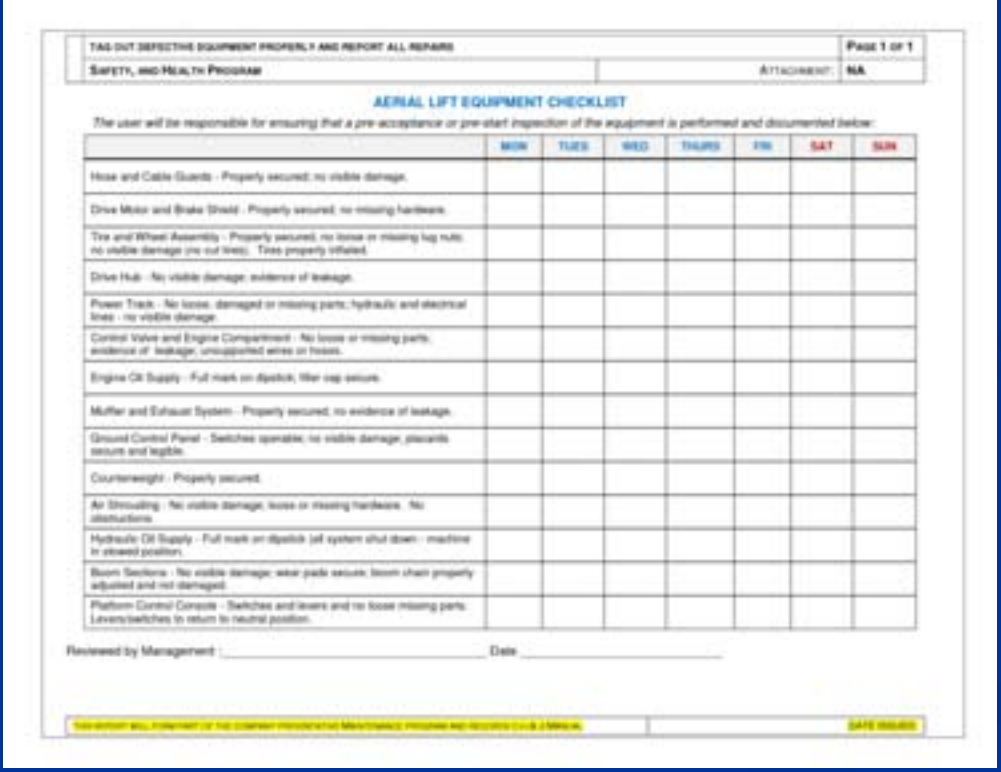
Aerial Lift Safety

Adequate training, maintenance and operation is critical to avoid serious injury, death and property damage:

- Qualified Operator
- Properly use required personal protective equipment
- Conduct correct inspection and maintenance practices
- Follow safe lift transport and set-up
- Practice correct, safe operating procedures

Aerial Lift Safety

Checklist based on the manufacturer's operator's manual is excellent guide to direct and record each inspection, maintenance and set-up operation.



TAG OUT DEFECTIVE EQUIPMENT PROPERLY AND REPORT ALL REPAIRS — PAGE 1 OF 1

SAFETY, AND HEALTH PROGRAM — ATTACHMENT: NA

AERIAL LIFT EQUIPMENT CHECKLIST

The user will be responsible for ensuring that a pre-acceptance or pre-start inspection of the equipment is performed and documented below:

	MON	TUES	WED	THURS	FRI	SAT	SUN
Hose and Cable Guards - Properly secured; no visible damage.							
Drive Motor and Brake Shield - Properly secured; no missing hardware.							
Tire and Wheel Assembly - Properly secured; no loose or missing lug nuts; no visible damage (no cut tires). Tires properly inflated.							
Drive Hub - No visible damage; evidence of leakage.							
Power Track - No loose, damaged or missing parts; hydraulic and electrical lines - no visible damage.							
Control Valve and Engine Compartment - No loose or missing parts; evidence of leakage; unsupported wires or hoses.							
Engine Oil Supply - Full mark on dipstick; filler cap secure.							
Muffler and Exhaust System - Properly secured; no evidence of leakage.							
Ground Control Panel - Switches operable; no visible damage; placards secure and legible.							
Counterweight - Properly secured.							
Air Shrouding - No visible damage; loose or missing hardware. No obstructions							
Hydraulic Oil Supply - Full mark on dipstick (all system shut down - machine in stowed position).							
Boom Sections - No visible damage; wear pads secure; boom chain properly adjusted and not damaged.							
Platform Control Console - Switches and levers and no loose missing parts. Levers/switches to return to neutral position.							

Reviewed by Management: _____ Date: _____

AERIAL LIFT DEVICE
Preventive Maintenance Checklist

Comments:

Note: The items below should be inspected during a typical preventive maintenance check. Additional checklist items may be required depending on equipment or circumstances.

UNDERHOOD

- ❑ Motor oil, power steering
- ❑ Coolant level, hoses
- ❑ Fuel line leaks
- ❑ Belt tensions
- ❑ Fuel level
- ❑ Batteries
- ❑ Windshield Washer

EXTERIOR

- ❑ Stop lights
- ❑ Head, tail, direction lights
- ❑ Cab, body, glass
- ❑ Warning lights
- ❑ Reflectors
- ❑ Coupling devices
- ❑ Hydraulic lines
- ❑ Bucket/platform
- ❑ Safety belt / lanyard
- ❑ Boom
- ❑ Tires, wheels, lug bolts
- ❑ Hydraulic reservoirs
- ❑ Springs - steering mechanism
- ❑ Drive line, universal joints
- ❑ Drain air reservoirs

INTERIOR

- ❑ Brakes
- ❑ Steering
- ❑ Horn & safety devices
- ❑ Wiper blades & control
- ❑ Mirrors
- ❑ Meters, gauges & control
- ❑ Heater
- ❑ Seats & seat belts
- ❑ Clutch

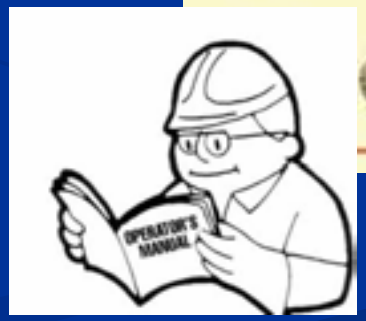
GENERAL

- ❑ Exhaust system
- ❑ Engine
- ❑ Fire extinguisher
- ❑ Emergency triangle
- ❑ First aid kit

Qualified Operator

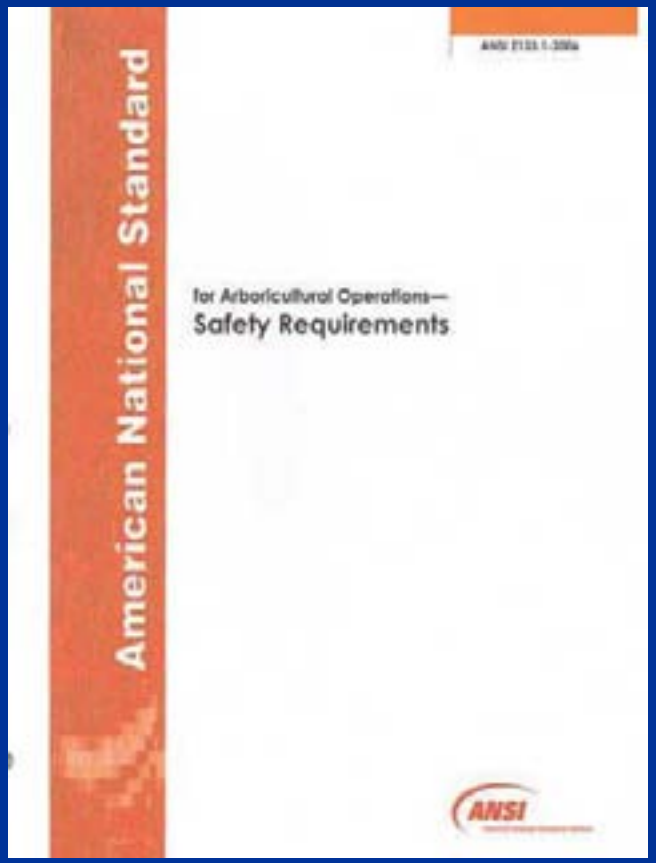
Qualification requires training, knowledge, experience and demonstrated proficiency:

- **Read and understand operator's manual**



Qualified Operator

Understand laws and regulations that affect the equipment and job



Qualified Operator

Adequate, hands-on training

- Inspection
- Transport
- Set-up
- Operation

Qualified Operator

Demonstrate proficiency

- Lift operation
- Conduct of work from bucket

Personal Protective Equipment

Select, inspect and properly use all required PPE

- Hard hat
- Body belt/harness
- Lanyard attached to boom or basket
- Eye protection
- Hearing protection?

Aerial Lift Inspection

"Field Modification"

- Modifications in structure, attachments or use not permitted Unless
- Certified in writing by the manufacturer or nationally recognized testing laboratory, to be in conformity with ANSI A92.2-1969 and as safe as before modification

Aerial Lift Inspection

Inspect key operating parts of carrier and lift

- Prior to use each day
- Anytime incident occurs that may damage lift or carrier
- General condition to ensure clean, dry & no significant defects or damage

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Aerial Lift Inspection

Insulated Booms for insulator condition (upper and lower)

- Clean and dry
- Damage or defects

Aerial Lift Inspection

Hydraulic system – fluid levels, leaks

Aerial Lift Inspection

Lift cradle – cracks, damage, lift secure

Aerial Lift Inspection

Outriggers – welds and structure cracks, damage

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Aerial Lift Inspection

Warning decals in place and readable

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Aerial Lift Inspection

Pylon Mast (pedestal)

- Bolts secure with no defects or damage
- Welds - no cracks or other structural defects

Aerial Lift Inspection

Pivot Pins

- Seated properly
- Bushings wear or damage

Aerial Lift Inspection

Drive cables or chains (if present)

- Lubrication adequate
- Signs of cable fatigue or strands broken
- Break tolerances adequate in a single lay of cable

Aerial Lift Inspection

Guard and covers

- In place and in good condition

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Aerial Lift Inspection

- Hoses:
  - Damage/defects
  - Leaks, cracks, breaks
- Hose connections
  - Secure
  - Cracks, leaks

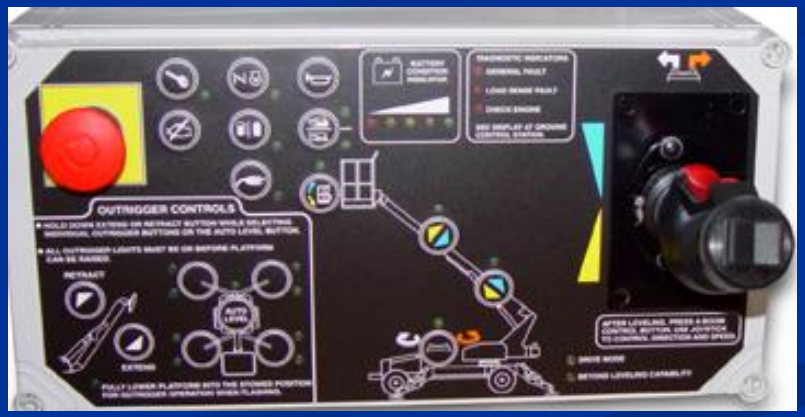
Aerial Lift Inspection

- Drive Cylinders
  - Cylinder Caps - damage, leaking fluid
  - Rod Ends – cracks, excessive wear, damage

Aerial Lift Inspection

Controls

- Labels present and legible
- Test fly all functions –
  - Travel directions smooth and correct
  - Lower control station first, then platform



Aerial Lift Inspection

Bucket/platform

- Welds (cracks)
- Excessive wear
- Damage
- Missing parts
- Proper gate operation
- Lift bolts and cotter pins secure
- Rotation points – cracks, damage

Aerial Lift Inspection

Tires

- Pressure
- Damage
- Lug nuts tight

Aerial Lift Inspection

Brake operation

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Aerial Lift Inspection

Safety Devices:

- Lights
- Back-up alarms
- Interlock devices
- Other safety devices

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Transport

Ensure carrier and lift secure and safe to move

Transport

- Ensure that the boom is fully retracted/folded
- Cradle and secure boom according to manufacturer

Transport

Stow and secure detachable and portable equipment and attachments

Transport

Know the minimum overhead ground clearance

- Avoid overhead obstructions
  - Low utility lines
  - Bridges
  - Tree branches

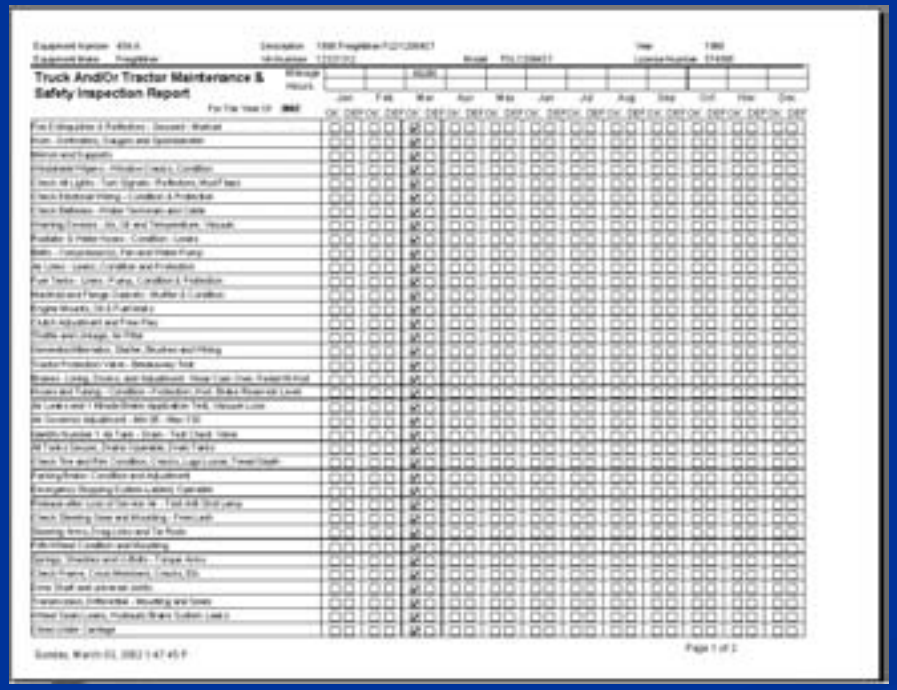
Transport

Conduct vehicle inspection to conform to DOT requirements

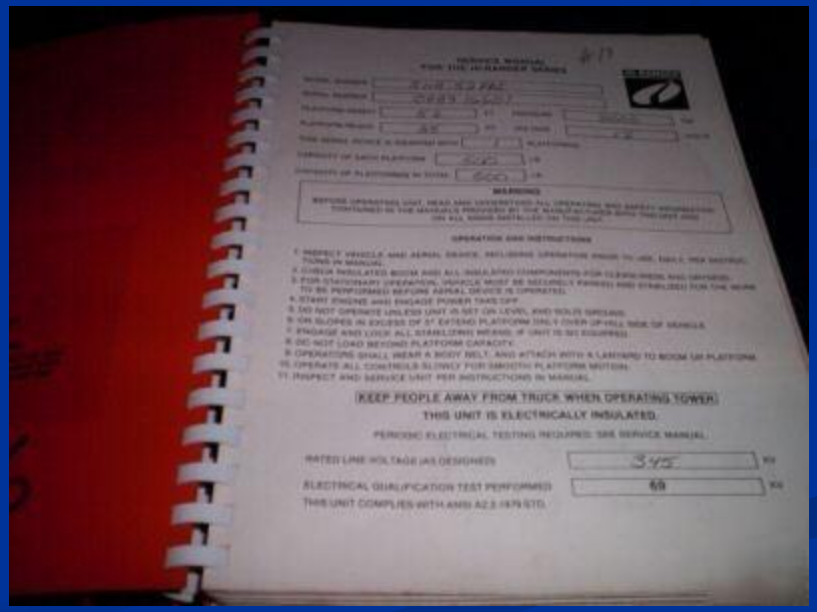
Transport

Ensure all documents current and stored on truck:

- Current truck inspection
- Lift manual
- Reports for annual inspections required by manufacturer



Truck And/Or Tractor Maintenance & Safety Inspection Report



Transport

- Working fire extinguisher stored in appropriate location
- Fully stocked first aid kit, appropriate for the work stored in appropriate location

Transport

Conduct final walk-around inspection

- Ensure all attachments, equipment and lift boom properly secured.